UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,966	05/04/2001	Richard L. Cunningham	IMD008	6935

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EXAMINER
PATEL, NITIN

ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/848,966	CUNNINGHAM ET AL.
	Examiner	**Art Unit**
	Nitin Patel	2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

    4a) Of the above claim(s) *6,20 and 47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-17,21-46 and 48-54* is/are rejected.

7)☒ Claim(s) *4,5,18 and 19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Applicant's request for reconsideration of the finality of the rejection of the last

Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1-3,7-9,16,17,21,24-25,32-38,48-50,52-54 is rejected under 35

U.S.C. 102(b) as being anticipated by Non patent Article on Dynamic force feedback in

virtual palpation (December 1993).

As per claim 1, Langrana teaches updating data values associated with a least a

portion of a virtual hand displayed (In fig.3) in a graphical environment (In Fig.3 and on

page 323, 328) of a host computer based on manipulation of at least a portion of an

object coupled to the host computer (In Fig.1 and 2), the portion of the virtual hand

directly contacting a virtual body part to produce a virtual palpation within the graphical

environment (In Fig.3 and 5) and outputting haptic feedback to the object when the

virtual palpation within the graphical environment occurs(In Fig.2 and on page 323,324).

As per claim 2, Langrana teaches an application program having a palpation

training program (on page 325 and 326).

As per claim 3, Langrana shows locating a predetermined target associated with

the region in the graphical environment (in Fig.3 and 5).

As per claim 7, Langrana shows feedback simulates a pulse (in fig.1 force feedback display workstation with digital to analog converter to show pulse on display).

As per claim 8, Langrana the haptic sensation simulates a feature on or below the surface of the graphical representation (In fig.3 and 5).

As per claim 9, Langrana shows the haptic sensation comprises a vibration (In fig.3).

As per claim 16, Langrana shows a method for interfacing a user with a computer running an application program (in fig.1), the computer generating a graphical environment comprising a cursor and a graphical representation of at least a portion of a living body (In Fig.3 and 5), the method comprising: providing an object in communication with the computer; controlling the cursor in relation to manipulation of at least a portion of the object by the user; and outputting a haptic sensation to the user when the cursor interacts with the graphical representation to simulate a pulse of the living body(In Fig.3 and 5 and on page 323-328).

As per claim 17, Langrana shows application program comprises a pulse taking training program that tasks the user to take the pulse of a simulated patient (on page 323 and In fig.1).

As per claim 21, Langrana shows the haptic sensation comprises a vibration (in Fig.3).

As per claim 24, Langrana shows a method for interfacing a user with a computer running an application program (in Fig.2), the computer generating a graphical environment comprising a cursor and a graphical representation of at least a portion of

a living body (In Fig.3 and 5), the method comprising: providing an object in

communication with the computer; controlling the cursor in relation to manipulation of at

least a portion of the object by the user; and outputting a haptic sensation to the user

when the cursor interacts with the graphical representation to simulate a palpated

feature on or below the surface of the graphical representation (In Fig.3 and 5 and on

page 325-330).

As per claim 25, Langrana shows the application program comprises a palpation

training program that tasks the user to perform a simulated palpation procedure 9in

Fig.1).

As per claim 32-34, Langrana shows no visual indication of the feature and

haptic sensation simulates a three dimensional contour of the graphical representation

constrained to movement substantially in a plane (In Fig.3 and 5 and on page 328).

As per claim 35, Langrana shows a palpation simulator comprising: a computer

readable medium comprising a computer readable program including program

instructions to cause a palpation simulation to be executed on a computer (In Fig.2),

and to cause the computer to generate a cursor and a graphical representation of at

least a portion of a living body (In fig.3, 5 and 6); an object in communication with the

computer, at least a portion of the object being manipulatable by a user (In Fig.2); a

sensor in communication with the computer and coupled to the object to detect a

manipulation of the at least a portion of the object to control the cursor(In Fig.2); and an

actuator coupled to the object to output a haptic sensation to the user when the cursor

interacts with a region within the graphical representation, the haptic sensation

simulating a palpation of the living body(In Fig.2).

As per claim 36-38, Langrana shows palpation program simulation executed by

the processor and cause processor to display portion of the hand graphical environment

(In Fig.2 compuetr system which includes simulator for haptic feedback using tape or

DVD).

As per claim 48-50,52-54 Langrana shows haptic feedback simulates of virtual

being (In Fig.3 and 5) and simulates feature is at least one of on the surface of the

graphical representation and below the surface of the graphical representation (In Fig.3

and 6) and feedback includes vibration (In Fig. Force feedback actuator) to output

haptic feedback (in Fig.2) and position sensor includes a force sensor (In Fig.2 gloves

having different sensors and on page 324 and 325).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 10-15,22-23,26-31,39-41,42-46,51 is rejected under 35 U.S.C. 103(a) as

being unpatentable over Langrana prior art article.

As per claim 10-15, Langrana does not teach haptic sensation comprises a

spring force and object being a mouse with feedback actuator. It is well known in the art

that input device of Langrana as shown in fig.1 and through out the article, could have

been used as a input device such as mouse or any input device to use for a simulation environment as a input signal receiver.

As per claim 22-23, Langrana does not teach a mouse as a feedback signal receiver and having a sinusoidal waveform which outputted by an actuator. It is well known in the art that input device of Langrana as shown in fig.1 and through out the article, could have been used as a input device such as mouse or any input device to use for a simulation environment as a input signal receiver which could have solenoid that produce waveform.

As per claim 26-31, Langrana does not teach haptic sensation comprises a spring force and object being a mouse with feedback actuator. It is well known in the art that input device of Langrana as shown in fig.1 and through out the article, could have been used as a input device such as mouse or any input device to use for a simulation environment as a input signal receiver.

As per claim 39-41, Langrana does not teach a computer program having a DVD and a program which includes a palpation program to cause displayed a portion of hand and graphical environment on a memory of computer which the program downloaded from a network. It is well known in the art, that Langrana (Fig.2 which connected a Ethernet connection could have shared a multiple computers in a network environment to shared information could have used that most of the program stored on a memory or DVD or a hard drives because data being huge to store on small storage device.

As per claim 42-46,51, Langrana does not teach haptic sensation comprises a spring force and object being a mouse with feedback actuator. It is well known in the art

, that input device of Langrana as shown in fig.1 and through out the article, could have

been used as a input device such as mouse or any input device to use for a simulation

environment as a input signal receiver.

Allowable Subject Matter

5.   Claims 4,5,18,19 objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.

The prior art fails t teach or suggest outputting a second haptic feedback the

second haptic feedback being a scaled version of the first haptic feedback and

outputting a second haptic feedback associated with a position of the virtual hand in a

second region of the graphical environment as claimed in claims 4,5.

The prior art fails to teach or suggest the haptic sensation is a first haptic

sensation output when the cursor interacts with a first region within the graphical

representation and further comprising outputting a second haptic sensation when the

cursor interacts with a second region within the graphical representation as claimed in

claim 18.And the second haptic sensation comprises a scaled version of the first haptic

sensation as claimed in claim 19.

Response to Arguments

6.   Applicant's arguments with respect to claim1-54 have been considered but are

moot in view of the new ground(s) of rejection.
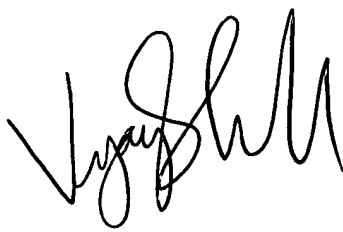
Conclusion

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Patel whose telephone number is 703-308-7024. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin H Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NP

February 7, 2005

VIJAY SHANKAR
PRIMARY EXAMINER